



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,860	01/11/2006	Chucri A. Kardous	6395-64819-03	4119
46135	7590	10/09/2007		
KLARQUIST SPARKMAN, LLP 121 S.W. SALMON STREET SUITE 1600 PORTLAND, OR 97204			EXAMINER MILLER, ROSE MARY	
			ART UNIT 2856	PAPER NUMBER
			MAIL DATE 10/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<div style="border: 1px solid black; width: 150px; height: 20px; margin: 0 auto;"></div> <p style="text-align: center;"><b>Office Action Summary</b></p>	<b>Application No.</b> 10/564,860	<b>Applicant(s)</b> KARDOUS, CHUCRI A.	
	<b>Examiner</b> Rose M. Miller	<b>Art Unit</b> 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 January 2006 and 09 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/11/06, 4/9/07</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Request for Information***

1. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

2. In response to this requirement, please provide answers to each of the following interrogatories eliciting factual information:

1) Were copies of the Power Point Presentation given at the American Industrial Hygiene Conference readily available at the conference?

2) Were copies of the Power Point presentation available for order at or after the conference?

3) What was the audience of the Power Point Presentation given at the American Industrial Hygiene Conference, i.e. was the conference by invitation only or was it open to the "public"?

4) Was a synopsis of the Conference available at or before the conference? If so, please provide a copy of the Conference synopsis and the date it was available.

The answers to these questions are necessary to fully determine the publication date of the PowerPoint presentation given at the American Industrial Hygiene Conference in June 2002.

3. The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained may be accepted as a complete reply to the requirement for that item.

4. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

Art Unit: 2856

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6-7 and 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6-7 and 16-18 are rejected as indefinite as the symbols in the equations found in the body of the claims are not defined within the claim. This leaves the equations open to interpretation and renders the scope of the claim indefinite. A suggestion for correction is to include the definitions of the equation symbols in the body of the claim such that the equation has a specific definition and meaning.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(f) he did not himself invent the subject matter sought to be patented.

Or

(g)(1) during the course of an interference conducted under section 135 or section 291, another inventor involved therein establishes, to the extent permitted in section 104, that before such person's invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed, or (2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

8. Claims 1-20 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. The article **“Noise dosimeter for monitoring exposure to impulse noise”** by **Kardous et al.** fully discloses Applicant's invention, including the claims. Only one of the authors of the publication is listed as an inventor of the instant application. Therefore this is evidence that Applicant did not invent the claimed subject matter.

Art Unit: 2856

9. Claims 1-3, 8-9, 12-13, and 19-20 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. The article **"New System for monitoring exposure to impulsive noise"** by **Kardous et al.** discloses Applicant's claimed invention. Only one of the authors of the publication is listed as an inventor of the instant application. Therefore, this is evidence that Applicant did not invent the claimed subject matter.

10. Claims 1-4, 6, 8-9, 12-14, 16, and 18-20 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. The PowerPoint Presentation **"Limitations of Integrating Impulse Noise When Using Dosimeters"** by **Kardous et al.** teaches the principles and reasoning behind Applicant's invention. Only one of the authors of the publication is listed as an inventor of the instant application. Therefore, this is evidence that Applicant did not invent the claimed subject matter.

11. Claims 1-20 are rejected under 35 U.S.C. 102(g) as being clearly anticipated by the article **"Noise dosimeter for monitoring exposure to impulse noise"** by **Kardous et al.**

12. Claims 1-3, 8-9, 12-13, and 19-20 are rejected under 35 U.S.C. 102(g) as being anticipated by the article **"New System for monitoring exposure to impulsive noise"** by **Kardous et al.**

13. Claims 1-4, 6, 8-9, 12-14, 16, and 18-20 are rejected under 35 U.S.C. 102(g) as being anticipated by the PowerPoint Presentation **"Limitations of Integrating Impulse Noise When Using Dosimeters"** by **Kardous et al.**

14. As the proper publication date for the Power Point Presentation has not yet been fully established, the following rejection is being applied. If the publication date of the Power Point presentation is June 2002 then the following rejection is applicable:

15. Claims 1-4, 6, 8-9, 12-14, 16, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by the PowerPoint Presentation **"Limitations of Integrating Impulse Noise When Using Dosimeters"** by **Kardous et al.**

Art Unit: 2856

With regards to claims 1 and 12, The PowerPoint presentation clearly discloses a system for monitoring exposure to impulse noise (see Presentation Figures), comprising: a sound-sensing device (microphone B&K 4136) operable to sense impulse noise; a storage module (Panasonic Digital Audio Tape) operable to store the waveform of the impulse noise sensed by the sound-sensing device, a processor (inherent in the Analysis performed by the MatLab) operable to calculate one or more noise parameters (peak pressure, time duration, etc.) of the impulse noise from the waveform; and a user interface program operable to display said one or more noise parameters selected by a user (shows displays of peak pressure parameter, time duration parameter, kurtosis parameter, etc.).

With regards to claims 2 and 13, the PowerPoint Presentation discloses that the noise parameters are selected from the group comprising energy, spectral distribution, kurtosis, number of impulses, peak pressure level, rise time, duration, and Auditory Hazard Units.

With regards to claim 3, the PowerPoint Presentation discloses the user interface program having one or more graphical user interface elements (displays) that allow for user selection of one or more of said noise parameters to be displayed by the user interface program (see slides).

With regards to claims 4 and 14, the PowerPoint Presentation clearly discloses the sound-sensing device being operable to sense impulse noise levels having a peak pressure level greater than 146 dB.

With regards to claims 6 and 16, the PowerPoint Presentation clearly teaches using the claimed equation for calculating the energy flux of the impulse noise.

With regards to claims 8 and 18, the PowerPoint Presentation clearly teaches measuring the A-duration and B-duration of the impulse.

With regards to claims 9 and 20, the PowerPoint Presentation clearly teaches the sound-sensing device comprising a dynamic pressure sensor (B&K 4136 Microphone).

With regards to claim 19, the PowerPoint Presentation clearly discloses displaying a time-varying graph of the recorded waveform (see slides).

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claims 1-3, 9-13, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Svean et al. (US 6,567,524 B1)** in view of **Bernardi et al. (US 2003/0191609 A1)**.

With regards to claims 1 and 12, **Svean et al.** clearly discloses a system (and the associated method) for monitoring exposure to impulse noise (see Figures, column 10 line 53 – column 12 line 60), comprising: a sound-sensing device (inner microphone M2) operable to sense impulse noise (see column 10 lines 61-66); a storage module (memory RAM E8) operable to store the waveform of the impulse noise sensed by the sound-sensing device (microphone M2), a processor (processing unit E3) operable to calculate one or more noise parameters (see column 11 lines 31-55) of the impulse noise from the waveform; and means for warning the user when impulse levels or exposures are unacceptable. **Svean et al.** discloses the claimed invention with the exception of a user interface program operable to display one or more noise parameters selected by a user.

**Bernardi et al.** discloses in paragraph [0023] utilizing manual interfaces such as a keyboard or mouse and visual display for entering data, calculation parameters, passwords, and other optional data to the audio dosimeter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of **Svean et al.** with a user interface program operable to display one or more noise parameters selected by a user as **Bernardi et al.** teaches

Art Unit: 2856

that the user interface allows for personalization of the audio dosimeter and the selection of which noise parameter to display is an obvious personalization, especially in view of the warning signals all ready generated by **Svean et al.** when one or more noise parameters have been exceeded.

With regards to claims 2 and 13, **Svean et al.** discloses that the measured noise parameter being energy (noise dose) and peak pressure level (peak value) (see column 11, lines 39-50).

With regards to claim 3, **Svean et al.** discloses the claimed invention with the exception of the user interface program having one or more graphical user interface elements that allow for user selection of one or more of said noise parameters to be displayed by the user interface program.

**Bernardi et al.** discloses in paragraph [0023] utilizing manual interfaces such as a keyboard or mouse and visual display for entering data, calculation parameters, passwords, and other optional data to the audio dosimeter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of **Svean et al.** with a user interface program having one or more graphical user interface elements (display, mouse) that allow for user selection of one or more of said noise parameters to be displayed by the user interface program as **Bernardi et al.** teaches that the user interface allows for personalization of the audio dosimeter and the selection of which noise parameter to display is an obvious personalization, especially in view of the warning signals all ready generated by **Svean et al.** when one or more noise parameters have been exceeded.

With regards to claims 9 and 20, **Svean et al.** clearly teaches the sound-sensing device comprising a dynamic pressure sensor (microphone M2 – microphones are inherently dynamic pressure sensors).

With regards to claim 10, **Svean et al.** clearly discloses the audiometer being a hearing protector having an ear piece (see Figures), the sound-sensing device (microphone M2) being embedded within the ear piece (see Figures).

With regards to claim 11, **Svean et al.** discloses an analog-to-digital converter operable to receive an analog signal representative of the impulse noise from the sound sensing device (microphone M2) and convert the analog signal into a digital signal (see column 11 lines 20-30), the analog-to-digital converter having a sampling rate and wherein the storage module stores



Art Unit: 2856

the digital signal from the analog-to-digital converter (see column 11 lines 20-30). **Svean et al.** discloses the claimed invention with the exception of the sampling rate being at least 200 KHz. It would have been obvious to one of ordinary skill in the art utilize a rate of 200 KHz as one of ordinary skill in the art would know to select the sampling rate to provide the best possible signal conversion necessary for the measured impulse noise.

19. Claims 4, 6, 8, 14, 16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Svean et al.** in view of **Bernardi et al.** as applied to claims 1 and 12 above, and further in view of the PowerPoint Presentation "**Limitations of Integrating Impulse Noise When Using Dosimeters**" by **Kardous et al.**

With regards to claims 4 and 14, **Svean et al.** in view of **Bernardi et al.** discloses the claimed invention with the exception of specifically detecting impulse noise levels having a peak pressure level greater than 146dB.

The PowerPoint Presentation clearly teaches measuring impulse noise levels having a peak pressure level greater than 146dB.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of **Svean et al.** in view of **Bernardi et al.** to detect impulse noise levels having a peak pressure level greater than 146dB as **Bernardi et al.** acknowledges the OSHA maximum level for impulse noise being 140dBSPL and one of ordinary skill in the art would recognize the need to measure peak pressures above this maximum level and the PowerPoint Presentation clearly teaches measuring such impulse noise levels.

With regards to claims 6 and 16, **Svean et al.** in view of **Bernardi et al.** discloses the claimed invention with the exception of calculating the energy flux of the impulse according to the recited equation.

The PowerPoint Presentation teaches measuring the energy flux of the sensed impulse according to the recited equation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the equation of the PowerPoint Presentation in the system of **Svean et al.** in view of **Bernardi et al.** as a means for measuring the energy flux of the impulse noise as all the disclosed systems calculate the total noise dose due to the combination of the

Art Unit: 2856

impulse noises and the other noises found within an environment and this equation allows for an easier incorporation of the impulse noise levels into the overall noise dose measurement.

With regards to claims 8 and 18, **Svean et al.** in view of **Bernardi et al.** discloses the claimed invention with the exception of the processor calculating the duration of an impulse, the duration comprising either the A-duration, B-duration, C-duration, or D-duration of the impulse noises.

The PowerPoint Presentation clearly teaches measuring the A-duration and B-duration of the impulse in order to incorporate the measurements into the overall noise exposure measurement.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the A-duration and B-duration of the impulse as taught by the PowerPoint Presentation in the system of **Svean et al.** in view of **Bernardi et al.** as a means for incorporating the impulse noise as all the disclosed systems calculate the total noise dose due to the combination of the impulse noises and the other noises found within an environment. Therefore, one of ordinary skill in the art would recognize a means/method such as the A-duration and B-duration measurements for providing a more accurate representation of the impulse noises such that they can be incorporated into the overall noise exposure measurements.

With regards to claim 19, **Svean et al.** in view of **Bernardi et al.** discloses the claimed invention with the exception of displaying a time-varying graph of the recorded waveform.

The PowerPoint Presentation clearly teaches displaying a time-varying graph of the recorded waveform in order to help one of ordinary skill in the art better understand the noise being monitored.

Therefore, it would have been obvious to one of ordinary skill in the art to include displaying a time-varying graph of the recorded waveform in the system/method of **Svean et al.** in view of **Bernardi et al.** as **Svean et al.** clearly discloses storing waveforms for further analysis and display and displaying the time-varying graph as taught by the PowerPoint Presentation would be a simple representation of the measured noises for one of ordinary skill in the art to understand.

Art Unit: 2856

**Conclusion**

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

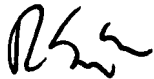
**Lovejoy (US 5,046,101)** discloses an audio dosage control system which attenuates impulse noises over the decibel limit.

**Yonovitz et al. (US 7,151,835 B2)** discloses a personal noise monitoring apparatus and method that utilizes headphones.


21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rose M. Miller whose telephone number is 571-272-2199. The examiner can normally be reached on Monday - Friday, 7:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



RMM  
1 October 2007



HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800